

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
14 April 2005 (14.04.2005)

PCT

(10) International Publication Number
WO 2005/034241 A1

(51) International Patent Classification⁷: **H01L 27/06**,
27/148, 31/02

(21) International Application Number:
PCT/IL2004/000915

(22) International Filing Date: 4 October 2004 (04.10.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
158345 9 October 2003 (09.10.2003) IL

(71) Applicant (for all designated States except US): IN-
TERON AS [NO/NO]; Ringveien 14, N-1386 Asker
(NO).

(71) Applicant (for MN only): **BARASH, David** [IL/IL]; 12
Beit Hadfus, 95483 Jerusalem (IL).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **NYGARD, Elnar**
[NO/NO]; Abyfarei 113, N-1392 Vettre (NO).

(74) Agent: **REINHOLD COHN AND PARTNERS**; P.O.
Box 4060, 61040 Tel Aviv (IL).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

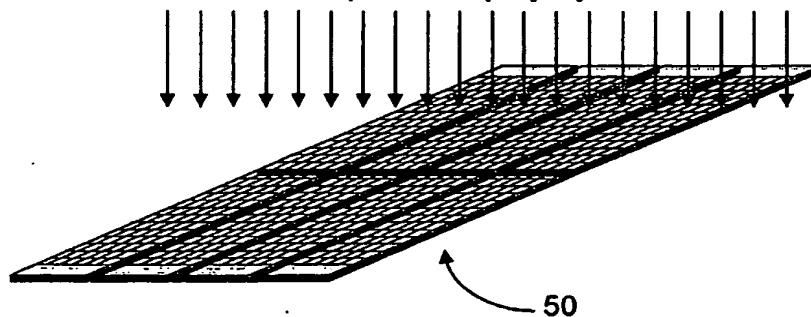
Published:

- with international search report
- before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: **PIXEL DETECTOR AND METHOD OF MANUFACTURE AND ASSEMBLY THEREOF**

Growth of amorphous or polycrystalline sensor material



(57) **Abstract:** A detector assembly (50) is formed by integrating the electronic processing circuits on a CMOS wafer by stitching a plurality of reticles of at least two different types so as to form an integrated circuit having an array of electronic processing circuits each having a respective sensor input disposed toward a first surface of the wafer and accessible from the first surface via a contact formed near an edge of the integrated circuit. Sensor elements (56) are disposed on the first surface of the respective integrated circuits in the detector whereby an exposed surface of the sensor elements forms a common first electrode towards which incident photons are directed, and an opposite unexposed surface thereof forms multiple second electrodes of opposite polarity to the first electrode each in registration with a corresponding sensor input.

WO 2005/034241 A1